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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,415	09/19/2003	Richard Gill Bonner	71638	7458

7590 01/05/2006

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EXAMINER	
BOYKIN, TERRESSA M	

ART UNIT	PAPER NUMBER
1711	

DATE MAILED: 01/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/666,415	BONNER ET AL.	
	Examiner	Art Unit	
	Terressa M. Boykin	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-16 are rejected under 35 U.S.C. 102(b) as being anticipated by USP 5532333 note cols. 2-7, tables, examples and claims 3, 6 and 8.

Applicants' invention is directed to a process for minimizing energy consumption during the production of polyethylene terephthalate where amorphous pellets are crystallized at elevated temperature and subsequently introduced into a solid state polymerization reactor, comprising removing heat from hot pellets from the solid state polymerization reactor, transferring heat removed to heat cool pellets which constitute a feed to a crystallizer.

USP 5532333 discloses a crystalline form of low molecular weight poly(ethylene terephthalate). This crystalline form may be produced from

molten or glassy low molecular weight poly(ethylene terephthalate) material by means of rapid heat transfer to or from the material. The poly(ethylene terephthalate) composition is suitable for use as a starting material for solid-state polymerization in order to produce polymers of higher molecular weight.

High melt polymerizations require higher temperatures, which is more likely to cause polymer decomposition, and expensive equipment. Solid-state polymerizations, in contrast, are usually run at somewhat lower temperatures. Solid-state polymerizations also have the advantage, compared to melt polymerizations, that very high molecular weights, where melt viscosities would otherwise be extremely high, can be more readily obtained. In commercial use, however, solid-state polymerizations may be relatively slow. Furthermore, solid-state polymerizations usually require that the lower molecular weight PET, in the form of particles or pellets, undergo a relatively lengthy crystallization process prior to being polymerized in the solid-state. The reference, thus, recognizes the need for better polymerization methods for PET.

Thus the reference discloses a process for crystallizing poly(ethylene terephthalate), comprising, cooling at a rate sufficient to cool a molten poly(ethylene terephthalate) or, alternatively, heating at a rate sufficient to heat a glassy poly(ethylene terephthalate) particle to a temperature of about 120. C. to about 210. C. This process produces a crystalline poly(ethylene terephthalate) having an average crystallite size of 9 nm or more and a melting point of 270. C. or less and a poly(ethylene terephthalate) having a degree of polymerization of about 5 to about 35. By "degree of polymerization" is meant a statistical average, since such polymeric molecules usually have a distribution

of molecular weights.

As stated previously, the crux of applicant's invention appears to be the "minimizing" of energy consumption during the production of PET. However, this phrase is relative. The reference also recognizes the need for a more efficient process. Without applicants having expressed any initial energy consumption or the higher or lower limitations of which the "energy consumption" is now minimized from or no initial figure or amount, the terms are meaningless.

Thus in view of the above, there appears to be no significant difference between the reference and that which is claimed by applicant(s). Any differences not specifically mentioned appear to be conventional. Consequently, the claimed invention cannot be deemed as novel and accordingly is unpatentable.

Correspondence

Please note that the cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site (www.uspto.gov), from the Office of Public Records and from commercial sources. Applicants may be referred to the Electronic Business Center (EBC) at http://www.uspto.gov/ebc/index.html or 1-866-217-9197.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Terressa Boykin whose telephone number is 571 272-1069. The examiner can normally be reached on Monday through Friday from 6:30am to 3:00pm.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. The general information number for listings of personnel is **(571-272-1700).**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

tmb

Examiner Terressa Boykin

TERRESSA M. BOYKIN
PRIMARY EXAMINER

Primary Examiner

Art Unit 1711